

# SONY

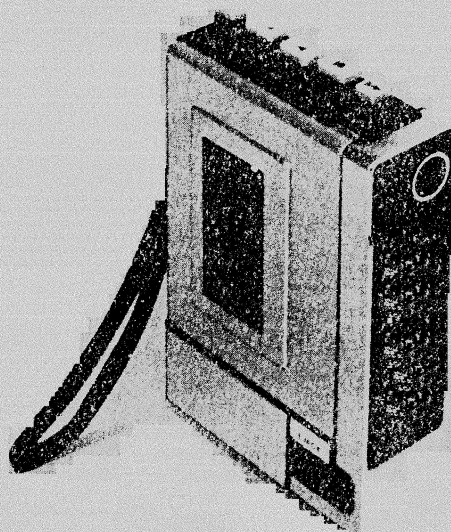
# TC-55

MODEL

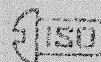
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## SERVICE MANUAL

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*USA Model*  
*Canada Model*  
*General Export Model*  
*AEP Model*



*Set using ISO screws*

## SPECIFICATIONS

<b>Power Requirements:</b>	DC 6V Four penlight batteries or equivalents SONY Rechargeable Battery Pack BP-23 Car Battery DC 12V by using SONY Car Battery Cord DCC-126 AC 120 V, 60 Hz by using SONY AC Adaptor (AC-9) (USA and Canada) AC 100 V, 110~127 V, 220~240 V, 50 Hz by using SONY AC Adaptor (AC-4 W) (General Export) AC 110 V, 220 V, 50 Hz by using SONY AC Adaptor (AC-456C) (AEP)	<b>Input:</b> MIC input Impedance: low impedance Maximum sensitivity: 0.2 mV ( - 72 dB)
<b>Track System:</b>	Two-track mono	<b>Output:</b> MONITOR output Impedance: 8Ω or 10kΩ or more Output level: 0.775V (0 dB) with 10kΩ load
<b>Reel Size:</b>	SONY tape cassette or equivalent	<b>Speaker:</b> 2" (5cm) dynamic speaker Voice coil impedance: 8Ω
<b>Tape Speed:</b>	1 7/8 ips (4.8 cm/s)	<b>Semiconductors:</b> 13 transistors and 8 diodes
<b>Recording Time:</b> (with C-120 tape cassette)	2 hrs total	<b>Dimensions:</b> 1 1/2" (W) x 5 7/8" (H) x 3 7/8" (D) (38 x 148 x 98 mm)
<b>Frequency Response:</b>	90 ~ 10,000 Hz	<b>Weight:</b> 1 lb 14 oz (850 g) with four penlight batteries
<b>Signal-to-Noise Ratio:</b>	45 dB	
<b>Wow and Flutter:</b>	0.35 % (WRMS)	
<b>Power Output:</b>	35 mW maximum	
<b>Recording Bias Frequency:</b>	Approx. 41 kHz	

# SERVICE MANUAL



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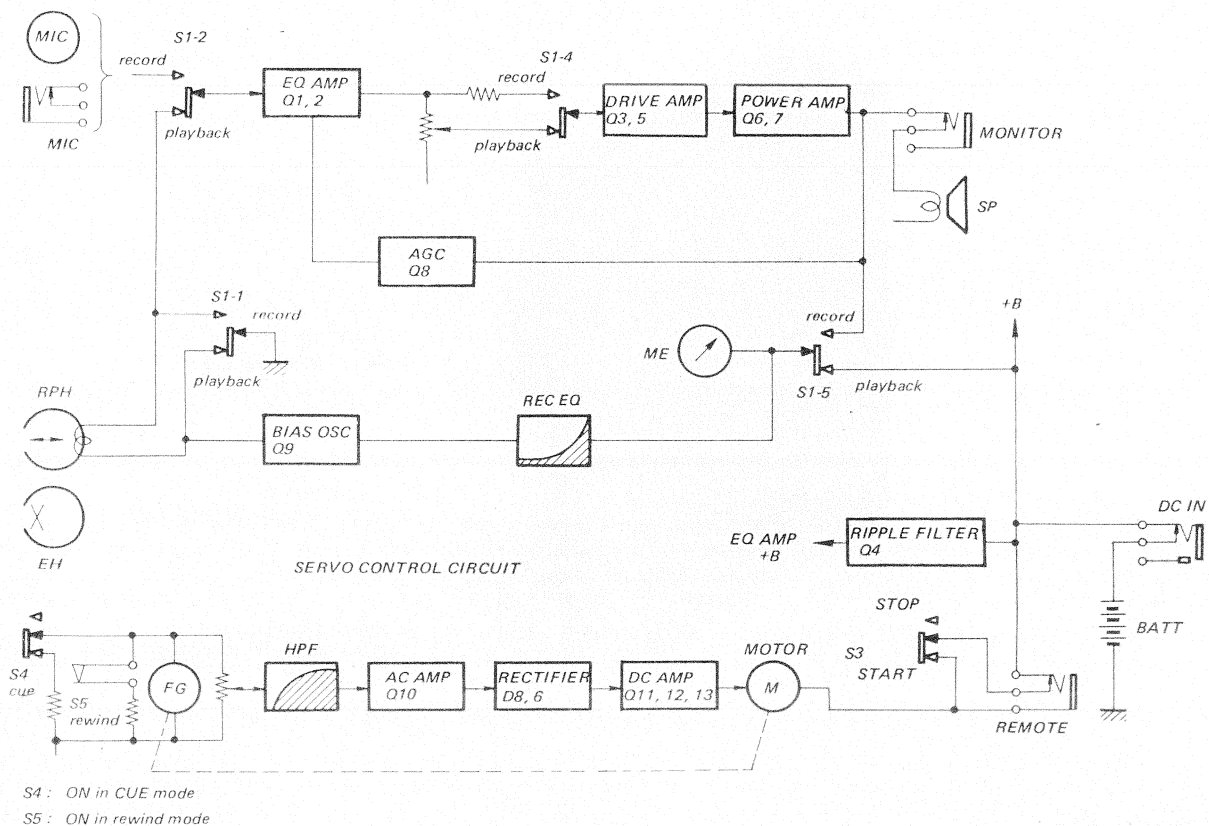
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*When ordering replacement parts, you should use PART NUMBER listed on the Parts Lists or shown in the EXPLODED VIEW. The reference number should not be used for ordering purposes.*

## SECTION 1

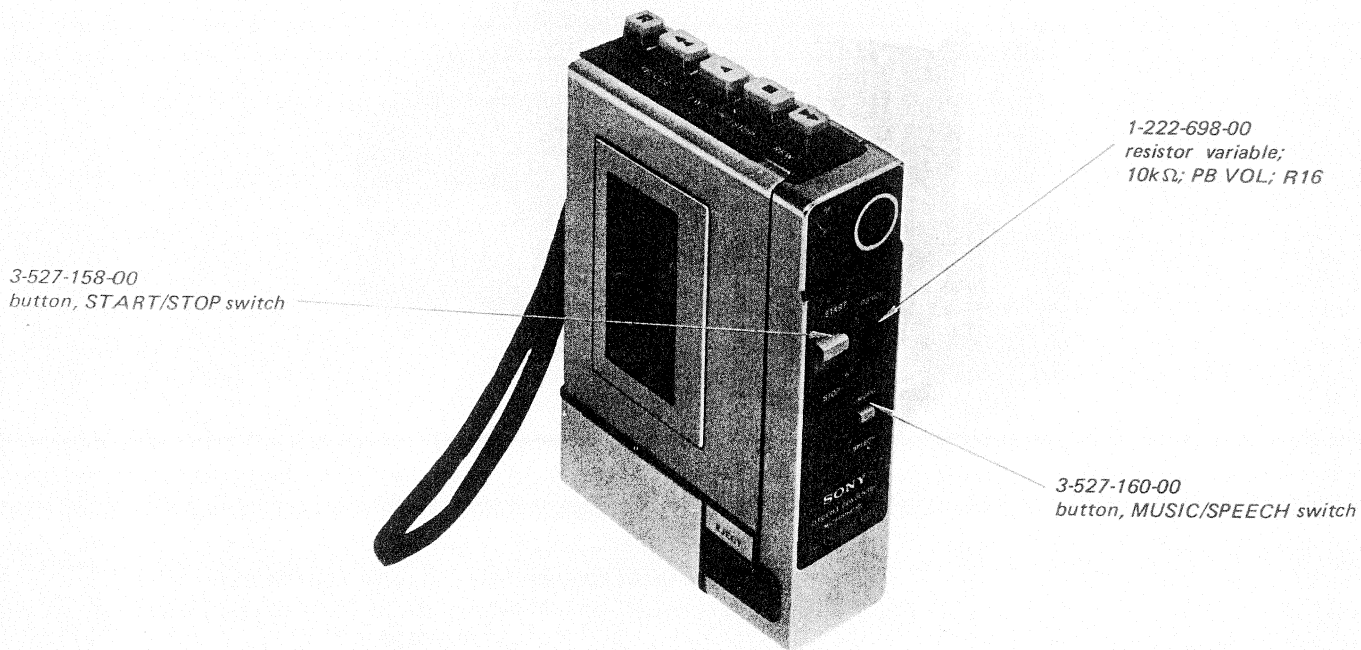
### OUTLINE

#### 1-1. BLOCK DIAGRAM



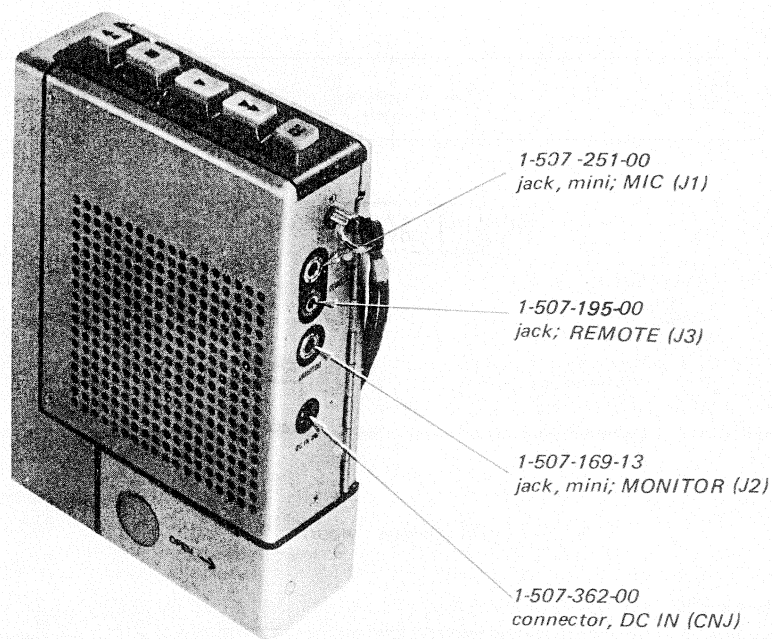
#### 1-2. EXTERNAL VIEW

— Front View —



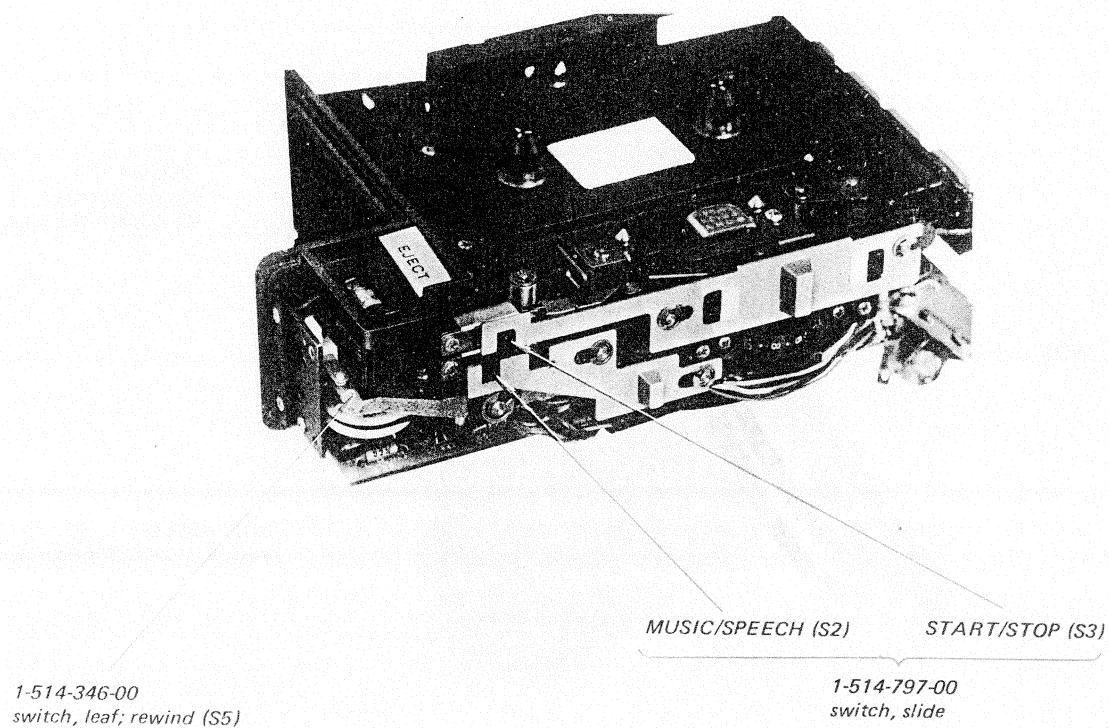


— Back View —



### 1-3. INTERNAL VIEW

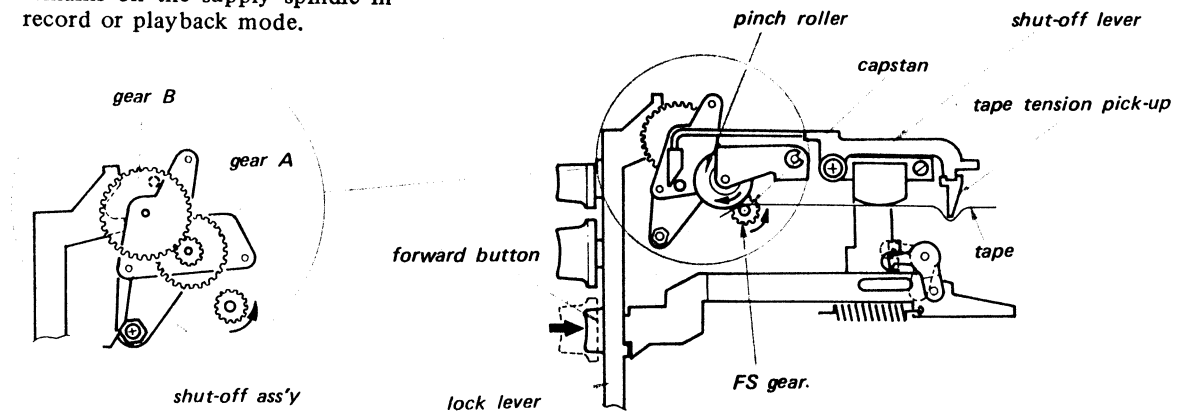
— Chassis Front View —



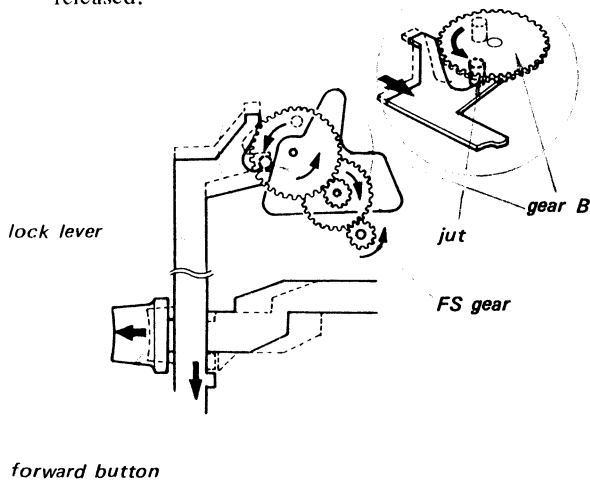
## 1-4. AUTOMATIC SHUT-OFF MECHANISM OPERATION

TC-55 mechanism is designed so that the unit will shut itself off automatically at tape end in record or playback mode.

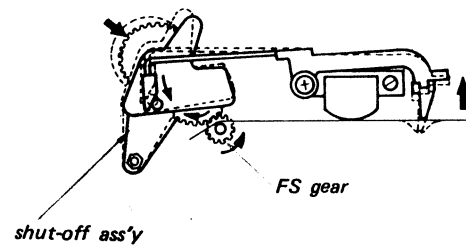
- 1 Gears in shut-off ass'y and FS gear are not in mesh as long as tape remains on the supply spindle in record or playback mode.



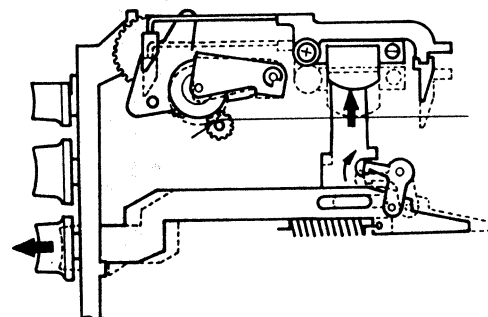
- 3 Turning force of FS gear is transmitted to gear B and jut of gear B pushes lock lever as shown by the arrow. Then forward button is released.



- 2 At tape end in record or playback mode. Tape tension pick-up detects tape tension and gears in shut-off ass'y are moved to mesh with FS gear.



- 4 After automatic shut-off operation, the unit is placed in stop mode.



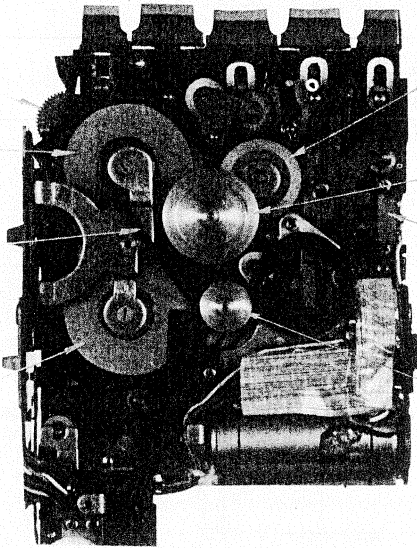
— Chassis Inside View —

X-35270-07-0  
shut-off ass'y

X-35270-11-0  
flywheel (A) ass'y

3-527-151-00  
belt, rewind

X-35270-14-0  
flywheel (B) ass'y



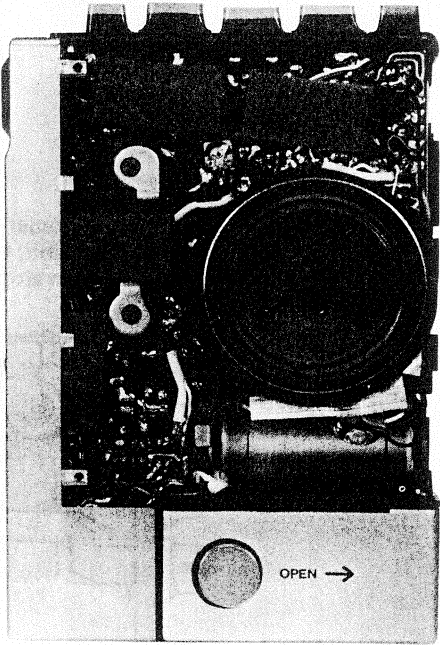
X-35270-17-0  
reel spindle ass'y, take-up

X-35270-43-0  
pulley ass'y, tension

1-514-264-00  
switch, slide; CUE (S4)

X-35270-21-00  
pulley ass'y, rewind

— Back View —



## 1-5. INTEGRATED PRINTED CIRCUIT BOARD (IPB)

TC-55 uses an Integrated Printed Circuit Board (IPB) as shown in Fig. 1-8-1.

Reference numbers of printed resistors, for example R38 and printed jumper conductor patterns are printed in white paint to show where resistors and jumper conductors are printed.

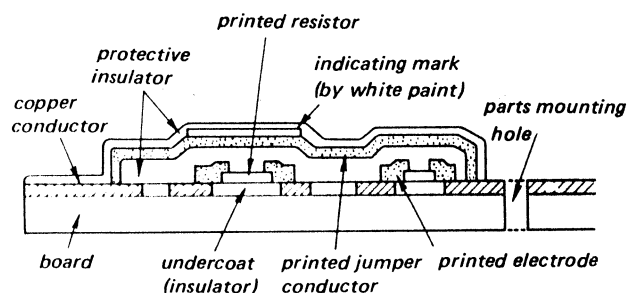


Fig. 1-5-1.

### How to repair IPB.

#### — Replacing printed resistor —

1. Cut off a portion marked  $\equiv$  in Fig. 1-5-3 for a defective resistor with a sharp-edged knife.
2. Make sure with VOM that the resistor is completely isolated.
4. Solder a replacement resistor, which has the same value as the defective resistor, to the portions as shown in Fig. 1-8-3.

**Note:** 1. To protect scraped portion use SONY Band Master "Clear" or equivalent. Other adhesives may spoil protective insulator.

2. Lead wires of the replacement resistor should be covered with plastic tubes as shown in Fig. 1-5-2.
3. Do not solder the replacement resistor at component side of the IPB.

#### — Repairing defective printed jumper conductor —

Solder lead wire to corresponding copper conductor.

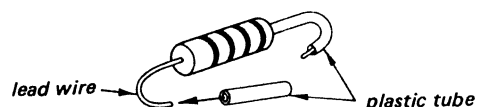


Fig. 1-5-2.



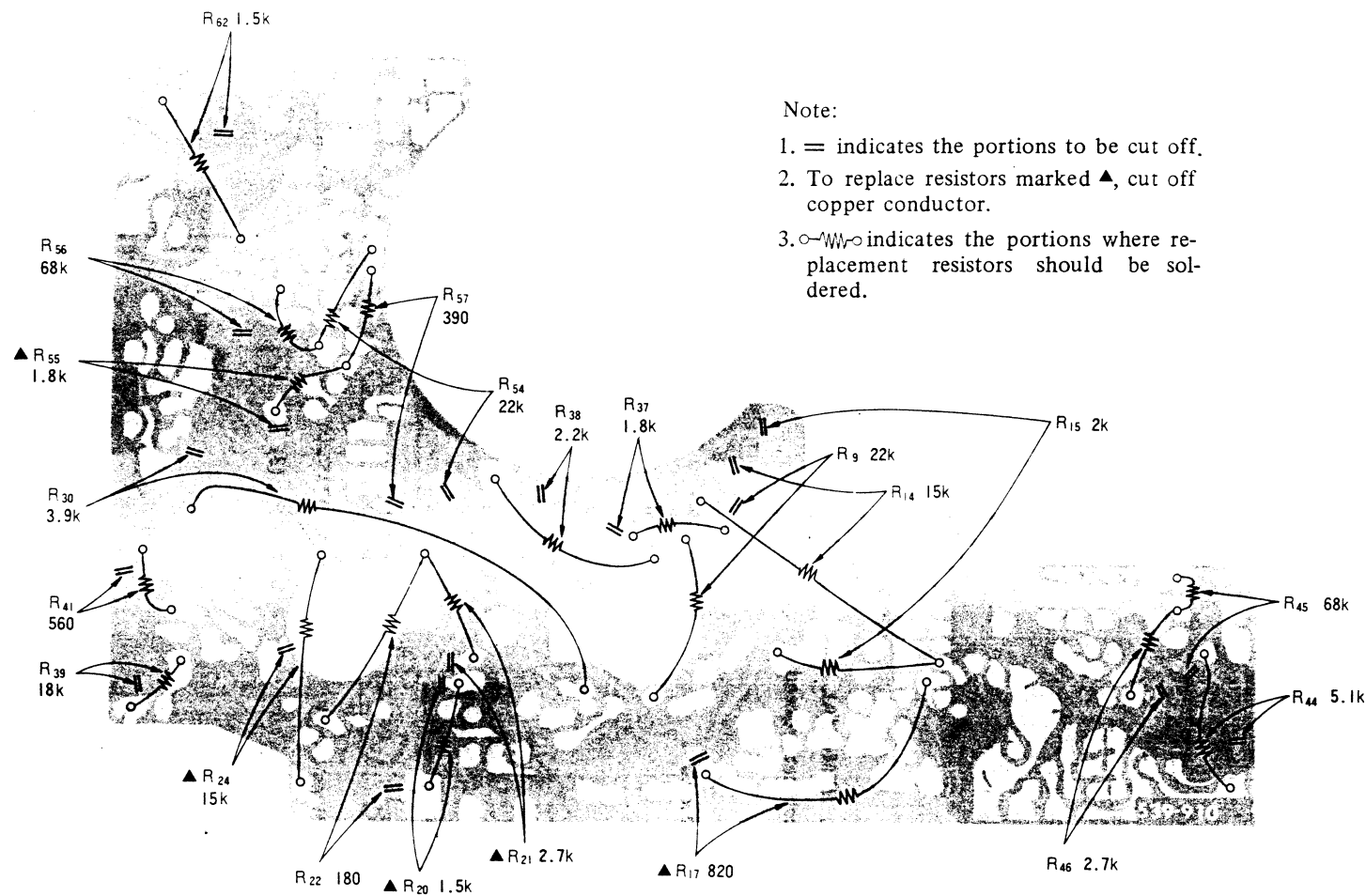
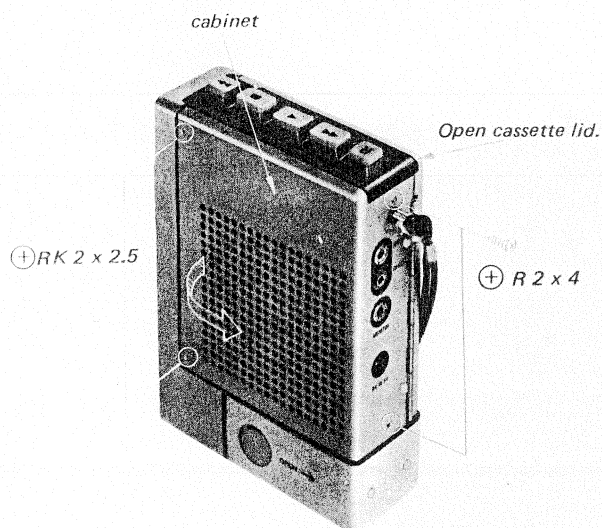


Fig. 1-5-3.

## SECTION 2

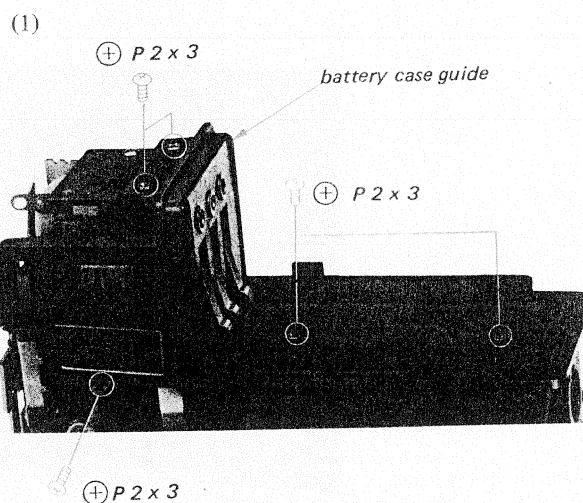
### DISASSEMBLY

#### 2-1. CABINET REMOVAL



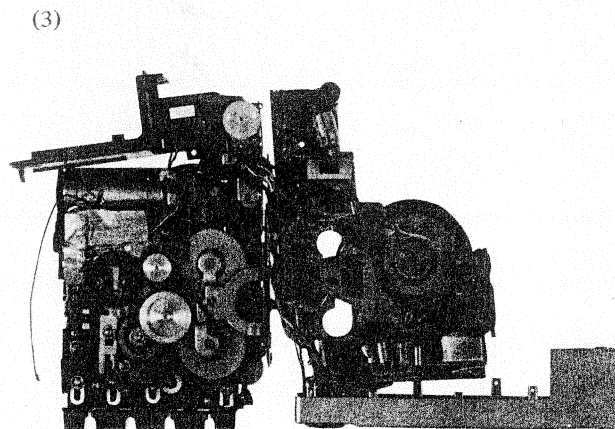
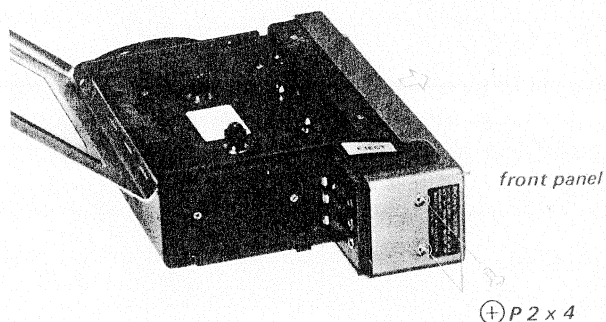
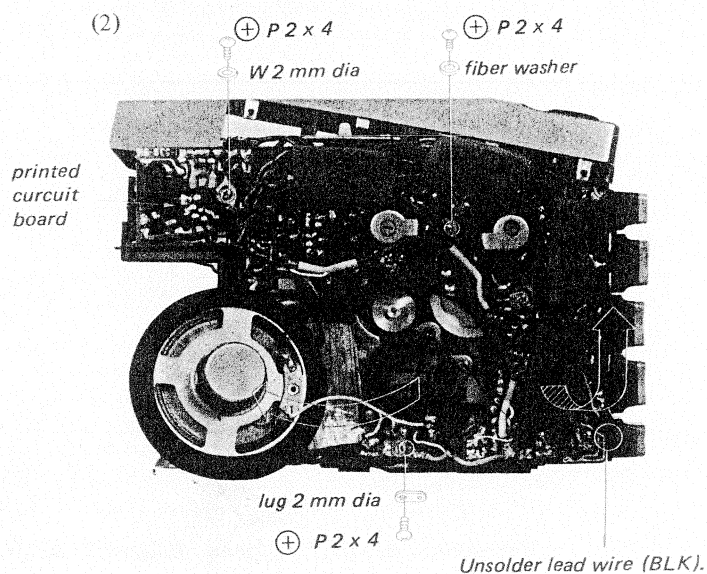
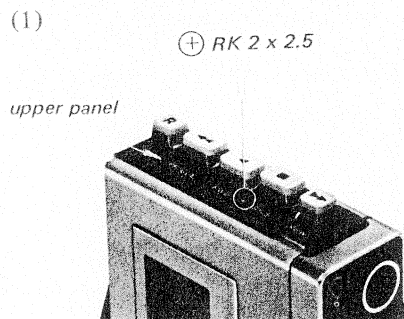
#### 2-3. PRINTED CIRCUIT BOARD REMOVAL

After removing front panel proceed as follows.



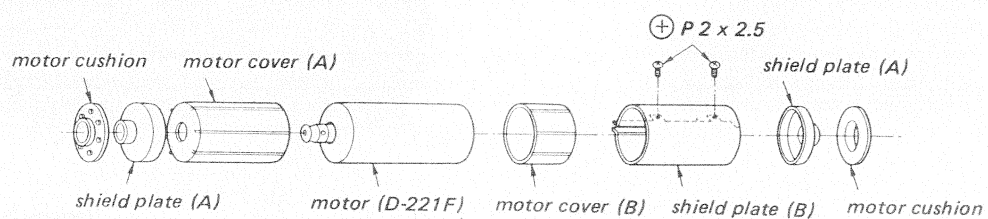
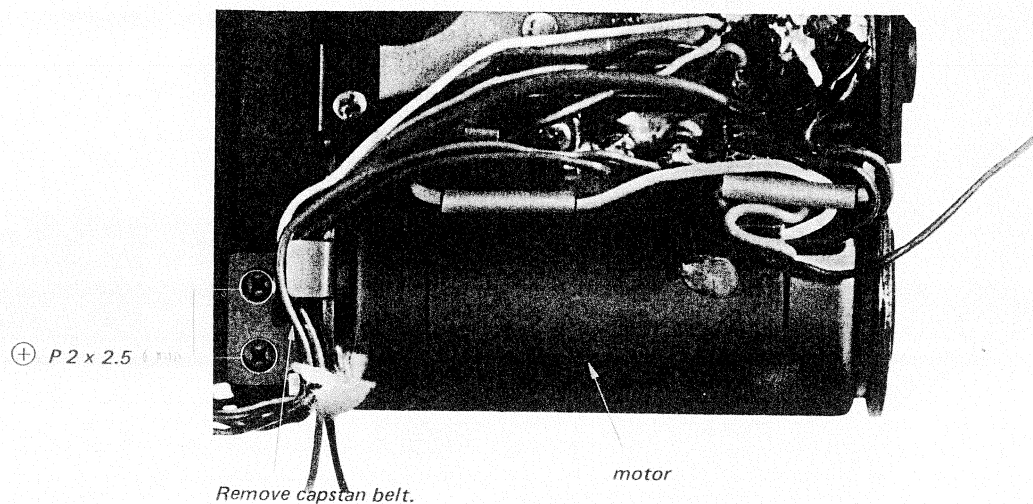
#### 2-2. FRONT PANEL REMOVAL

After removing cabinet proceed as follows.



## 2-4. MOTOR REMOVAL

After removing printed circuit board  
proceed as follows.

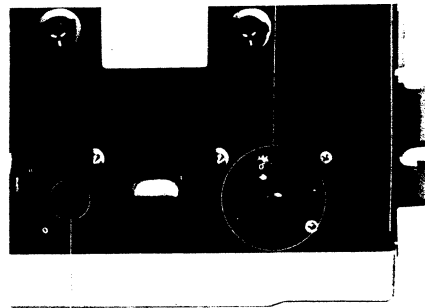
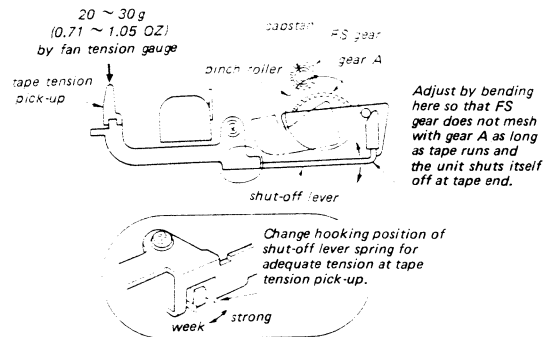


## SECTION 3

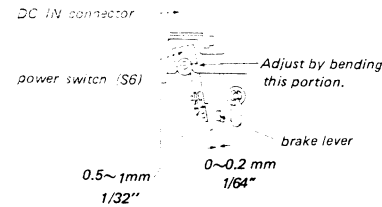
### ADJUSTMENT PROCEDURES

#### 3-1. MECHANICAL ADJUSTMENTS

##### Automatic Shut-off Mechanism Adjustment (in playback mode)

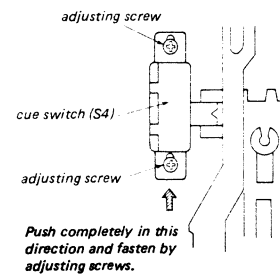


##### Power Switch (S6) Clearance Adjustment In stop mode



After this adjustment make sure that power switch (S6) turns ON in playback, fast forward and rewind modes.

##### Cue Switch (S4) Positioning

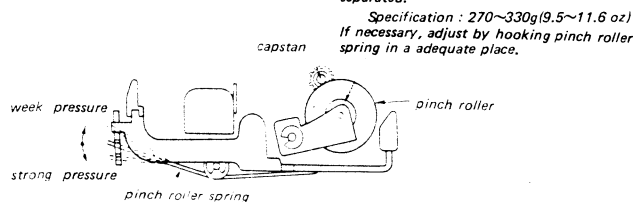


After this positioning make sure the following.

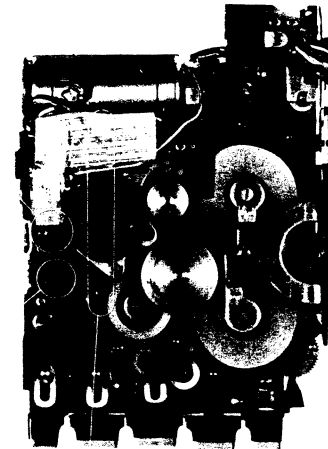
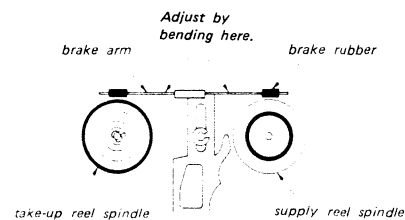
1. When fast forward button is depressed in playback mode, cue switch (S4) should turn ON.
2. In fast forward mode, cue switch (S4) should be OFF.
3. When fast forward button is depressed in record mode, cue switch (S4) should be OFF.

##### Pinch Roller Pressure Adjustment

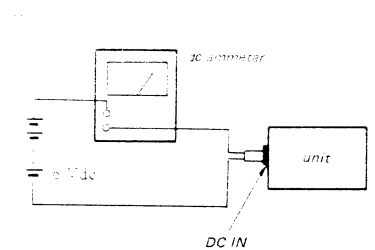
In playback mode



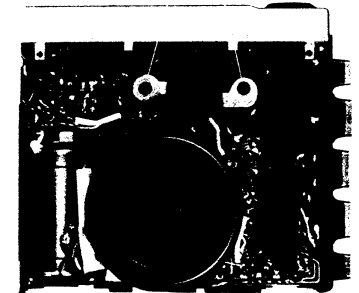
##### Brake Adjustment



##### Flywheel Thrust Adjustment



2. Loosen thrust screws for sufficient flywheel play.
3. Tighten adjusting screw until current suddenly increases, then loosen the screws 1/4 turn.



Brake torque (measured in stop mode using torque meter.)	
supply reel spindle	25g·cm (0.35 oz·in) or greater
take-up reel spindle	35g·cm (0.53 oz·in) or greater

Note: Brake torque ratio of supply reel spindle to take-up reel spindle should be 2 to 3

After this adjustment make sure that each brake rubber does not make contact with each reel spindle in playback, fast forward and rewind modes.

##### Torque Measurement

The appropriate values should be as follows:

- playback torque: 25 ~ 45 g·cm (0.33 ~ 0.63 oz·in)
- fast forward and rewind torque: 50 ~ 120 g·cm (0.69 ~ 1.67 oz·in)



### 3-2. ELECTRICAL ADJUSTMENTS/ MEASUREMENTS

#### PRECAUTION

- 1) Clean the following parts with alcohol moistened swab:  
Record/Playback head  
Erase head  
Capstan  
Pinch roller  
Rubber belt  
Idlers
- 2) Demagnetize record/playback head with a head demagnetizer.  
(Don't bring head demagnetizer close to erase head, and don't use magnetized screwdriver for adjustments).
- 3) After the adjustments, apply lock paint to the parts adjusted.
- 4) Adjustments should be performed in the order arranged in service manual.
- 5) Adjustments and measurements should be performed with rated voltage unless otherwise specified.

#### Test Equipment/Tools Required

audio oscillator (af osc)  
VTVM  
digital frequency counter  
1 kHz bandpass filter  
10 k $\Omega$  resistor  
attenuator  
SONY test tapes  
P-4-A81 (6.3 kHz, -10 dB)  
P-4-L81 (333 Hz, 0 dB)  
SPC-4 (1 kHz, 0 dB)  
WS-48 (3 kHz, 0 dB)  
blank tape cassette (completely erased)

#### Standard Input Level

	MIC
impedance	300 $\Omega$
input level	-60 dB (0.78 mV)

#### Standard Output Level

	MONITOR	Speaker
impedance	10 k $\Omega$	8 $\Omega$
output level	-2 dB (0.62V)	-22 dB (62mV)

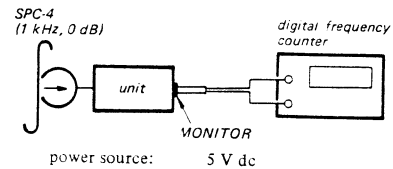
#### Tape Speed Adjustment

##### Control Switch Setting:

PB VOL control: 3 or greater position  
START STOP switch: START  
MUSIC SPEECH switch: any position

##### Procedure:

1. Mode: playback



Specification: 975 ~ 1,030 Hz  
Frequency difference between beginning and end is within 10 Hz.

2. If necessary, adjust R53.  
clockwise: fast  
counterclockwise: slow

R 53 3.3 k $\Omega$  (B)

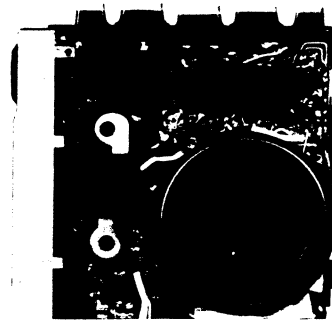


Fig. 3-2-1

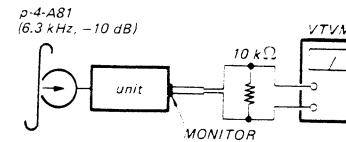
#### Head Azimuth Adjustment

##### Control Switch Setting:

PB VOL control: 5 position  
START STOP switch: START  
MUSIC SPEECH switch: any position

##### Procedure:

1. Mode: playback



2. Adjust adjusting screw for the biggest peak VTVM reading.

Note: Several peaks may appear, take the biggest.

head azimuth adjusting screw

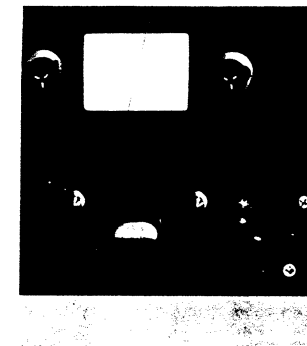


Fig. 3-2-2

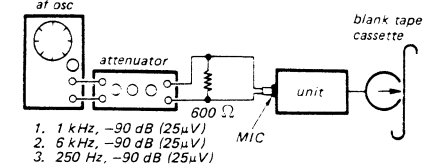
#### Recording Bias Adjustment

##### Control Switch Setting:

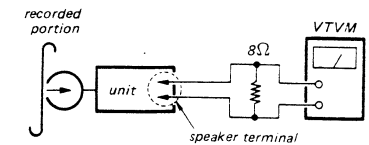
START STOP switch: START  
MUSIC SPEECH switch: MUSIC

##### Procedure:

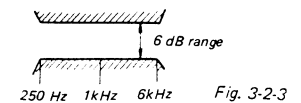
1. Mode: record



2. Mode: playback



recorded signal	VTVM reading
1 kHz	Adjust PB VOL control for -20 dB (77.5 mV).
6 kHz	See Fig. 3-2-3
250 Hz	



3. If necessary, vary resistance by changing resistors as shown.  
Lower resistance decreases high frequency level.

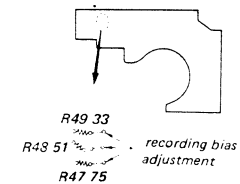


Fig. 3-2-4

4. Repeat steps 1 through 3 until desired results are achieved.

## Battery Indicator Calibration

### Procedure:

1. Supply 3.6 V dc to DC IN jack and place unit in playback mode.
2. Adjust by changing resistor connection in Fig. 3-2-5.

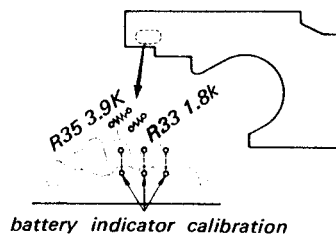
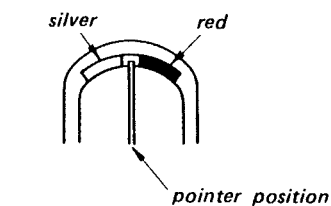


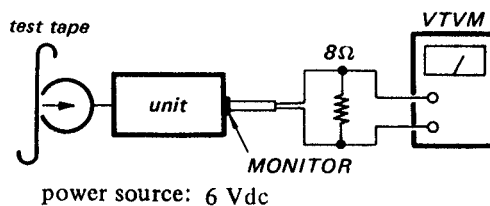
Fig. 3-2-5

## Playback Frequency Response Measurement

### Control/Switch Setting:

START/STOP switch: START  
MUSIC/SPEECH switch: any position

1. Mode: playback



	Test Tape	VTVM reading
1	P-4-L81 (333 Hz, 0 dB)	Adjust PB VOL control for -20 dB (77.5 mV)
2	P-4-A81 (6.3 kHz, -10 dB)	-29 ~ -36 dB (27.4 ~ 12.3 mV)

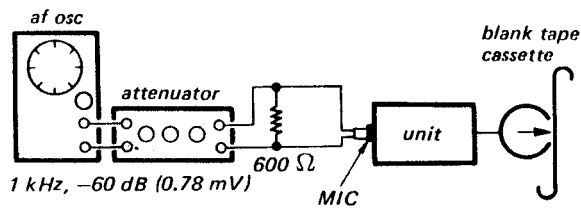
## Overall Signal-to-Noise Ratio Measurement

### Control/Switch Setting:

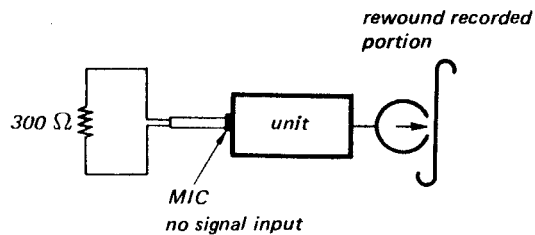
START/STOP switch: START  
MUSIC/SPEECH switch: MUSIC

### Procedure:

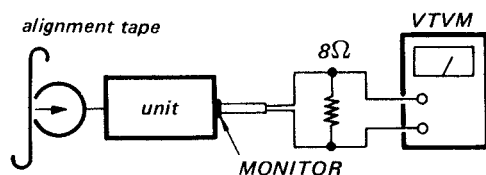
1. Mode: record



2. Mode: record



3. Mode: playback



recorded signal	VTVM reading
1 kHz	Adjust PB VOL control for -22 dB (62 mV)
no signal	power source: dc -60 dB (0.78mV) or less
	power source: AC(using AC-9) -54 dB (1.55 mV) or less

**Note:** Overall Signal-to-Noise Ratio is the difference between 1 kHz and no signal VTVM readings in above table.

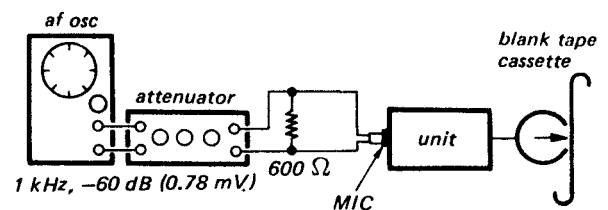
## Overall Maximum Output Measurement

### Control Switch Setting:

PB VOL control: 10 position  
START/STOP switch: START  
MUSIC/SPEECH switch: MUSIC

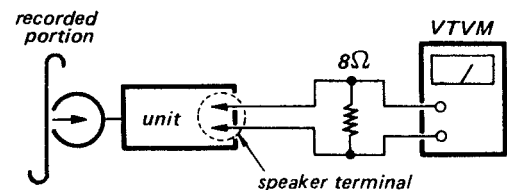
### Procedure:

1. Mode: record



power source: 6 V dc

2. Mode: playback



VTVM reading: 6.8 dB (1.7 V) or greater  
(340 mW or greater)

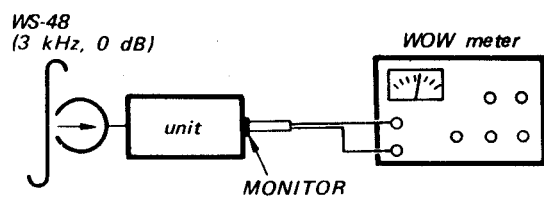
## Wow and Flutter Measurement

### Control/Switch Setting:

PB VOL control: 5 position  
START/STOP switch: START  
MUSIC/SPEECH switch: any position

### Procedure:

1. Mode: playback



Specification: 0.5% (RMS) or less

**Note:** Measure wow and flutter for beginning, mid-way and end portion of WS-48.

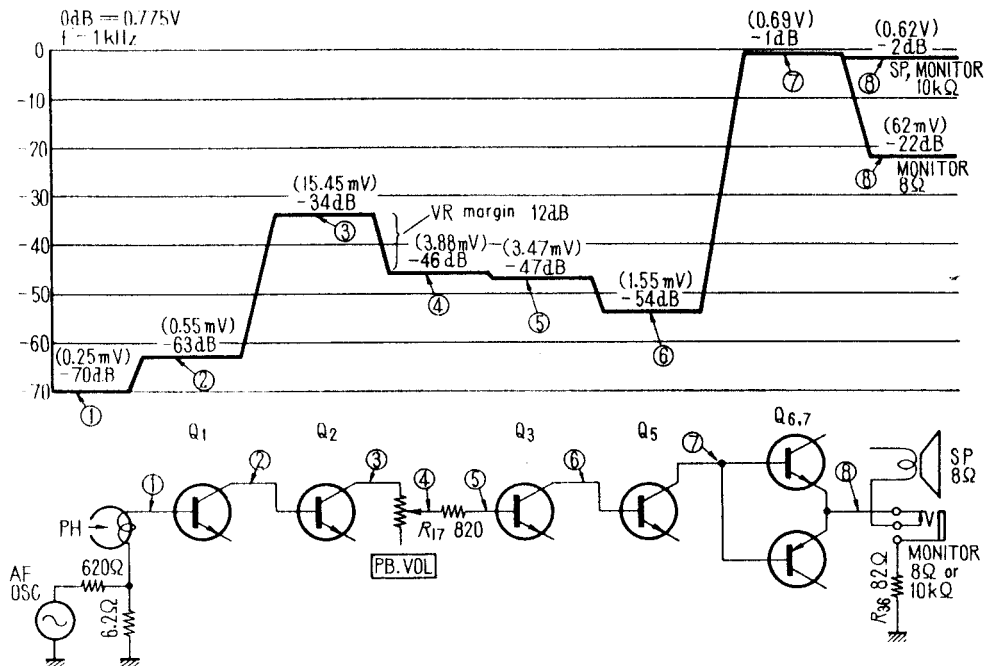


# SECTION 4

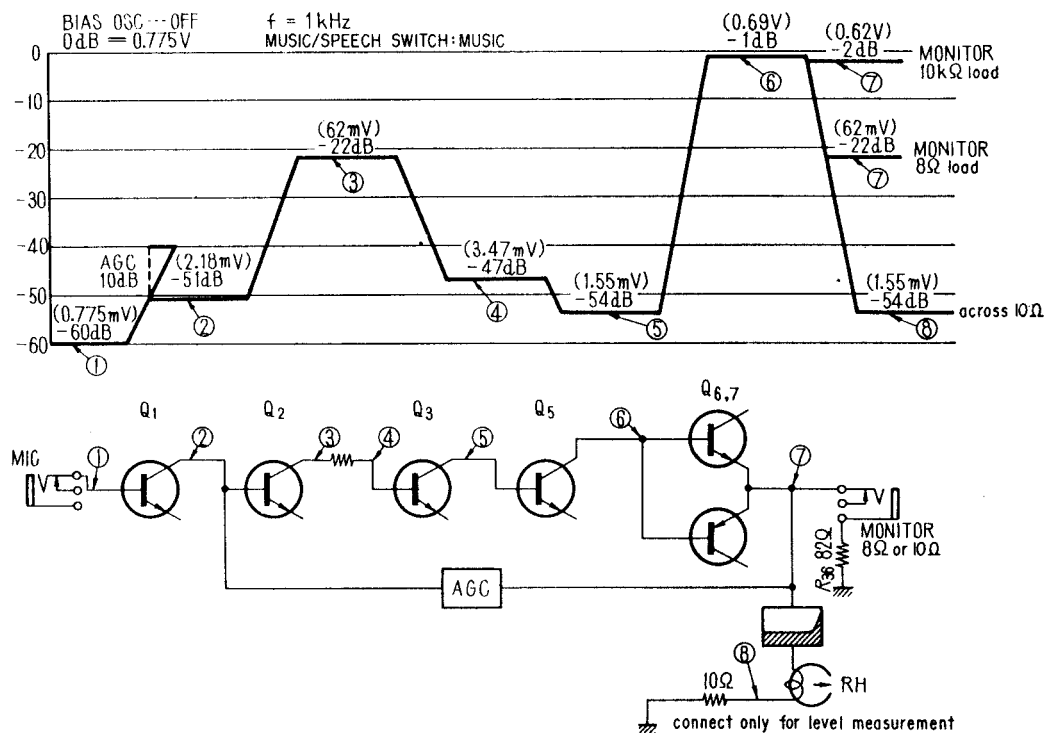
## DIAGRAMS

### 4.1. LEVEL DIAGRAMS

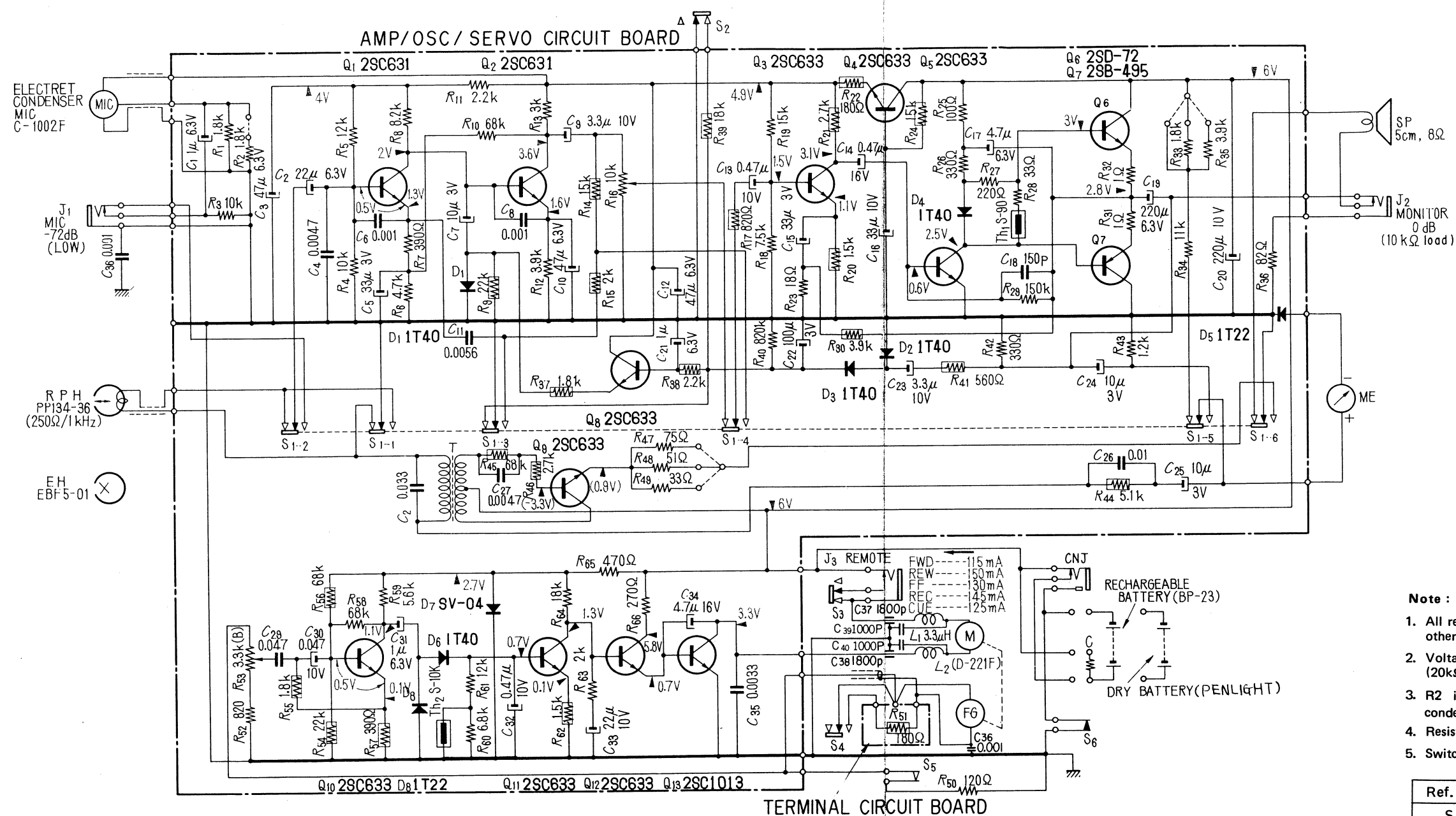
#### Playback Mode



#### Record Mode



# 4-2. SCHEMATIC DIAGRAM



## Note :

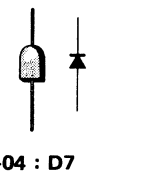
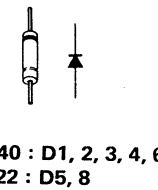
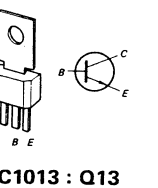
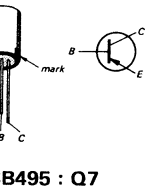
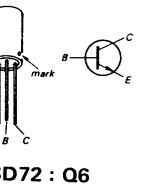
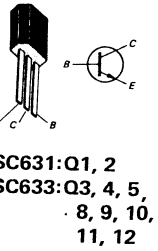
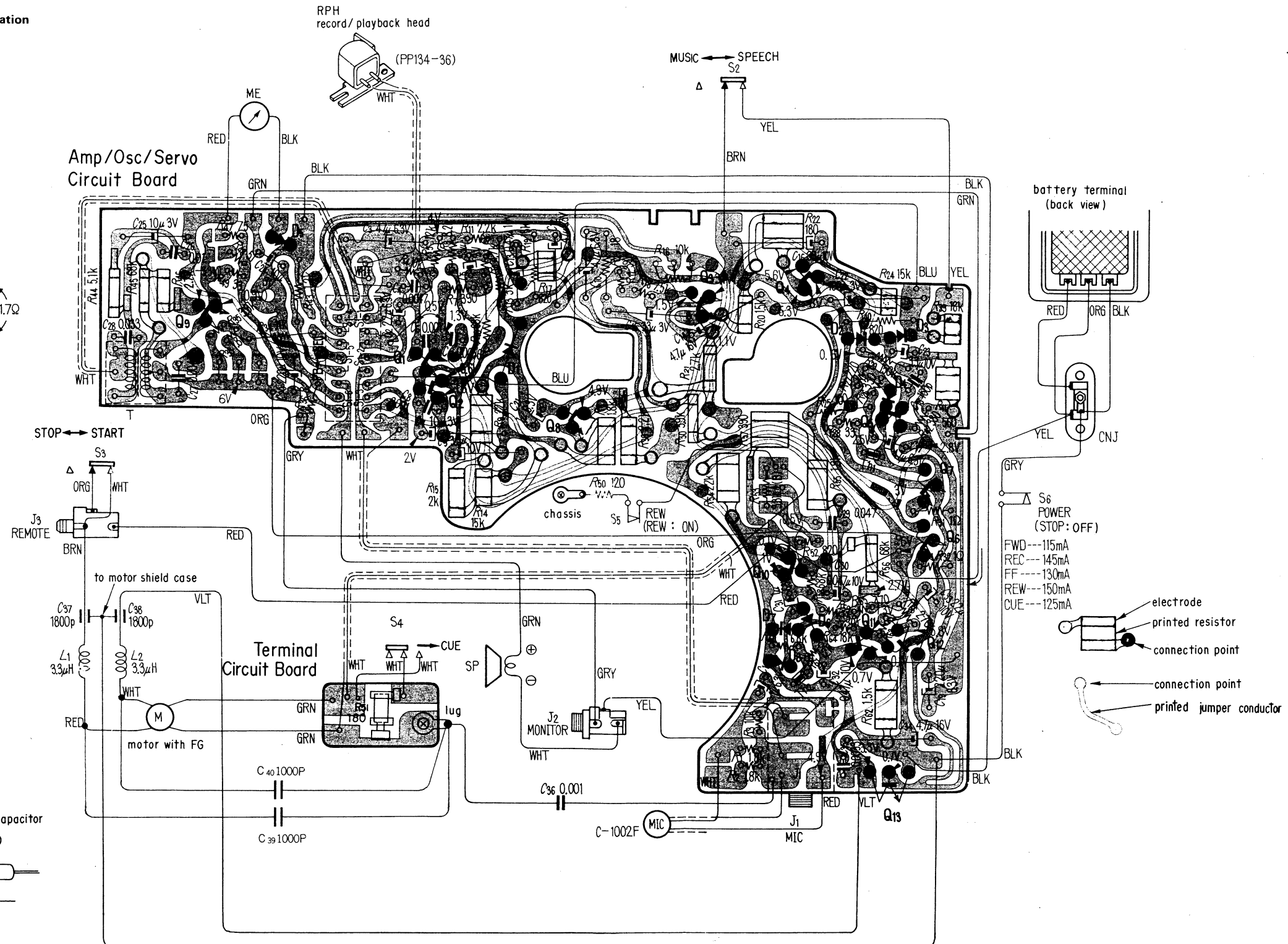
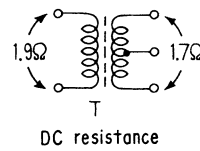
1. All resistors and capacitors are rated in  $\Omega$  and  $\mu F$ , unless otherwise specified.
2. Voltage values shown are measured with a voltmeter (20k $\Omega$ /V) in playback mode.
3. R2 is to be connected when red marked electret condenser microphone is used.
4. Resistors in   are printed resistors.
5. Switch Mode.

Ref. No.	Switch	Mode
S1	record/playback	playback
S2	MUSIC/SPEECH	SPEECH
S3	START/STOP	START
S4	cue	OFF
S5	rewind	OFF
S6	power	ON

4-3. MOUNTING DIAGRAM

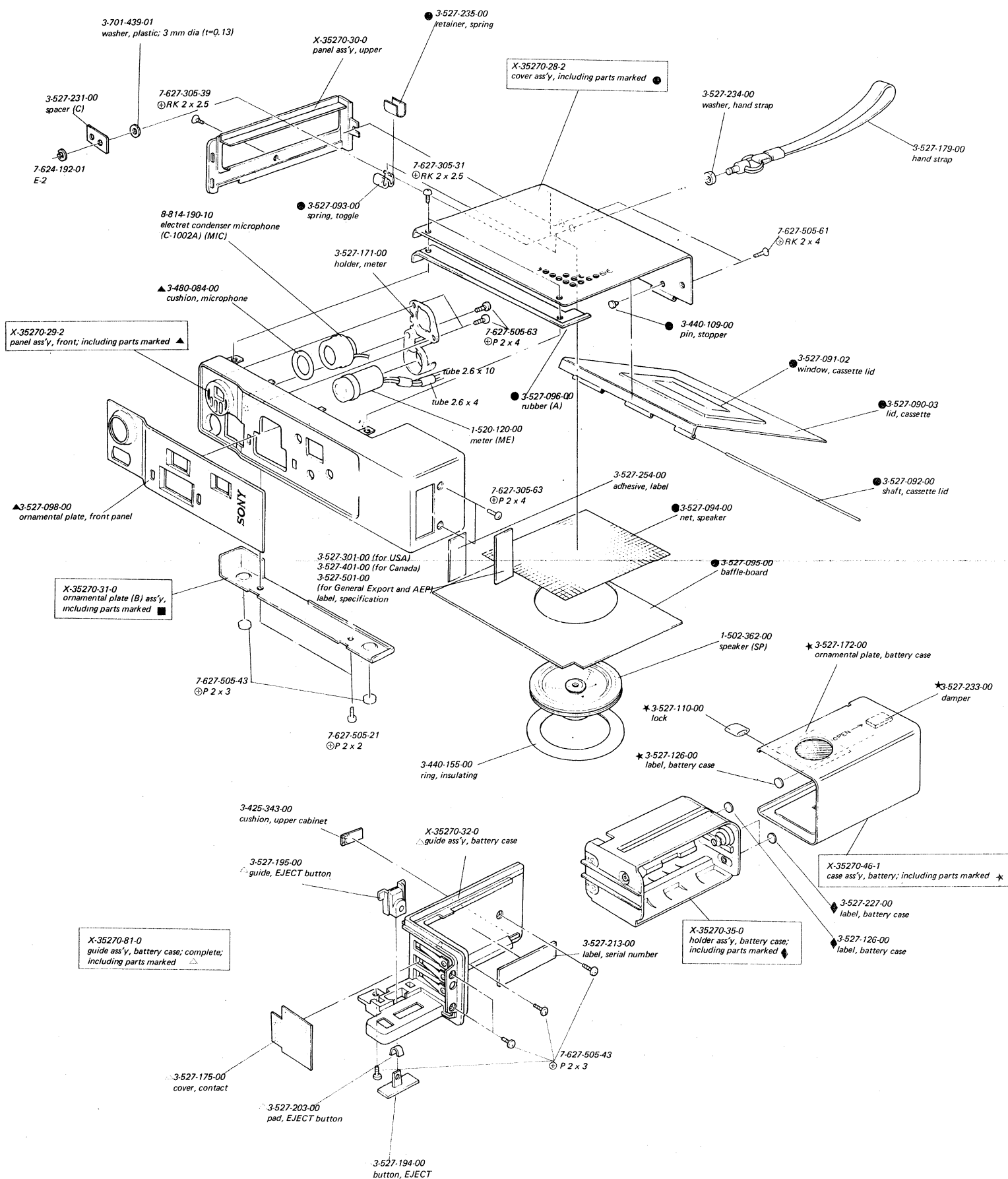
Transistors Location

Q1	C2
Q2	C2
Q3	D2
Q4	E2
Q5	E2
Q6	E3
Q7	E3
Q8	D2
Q9	B2
Q10	E3
Q11	E3
Q12	E3
Q13	E4

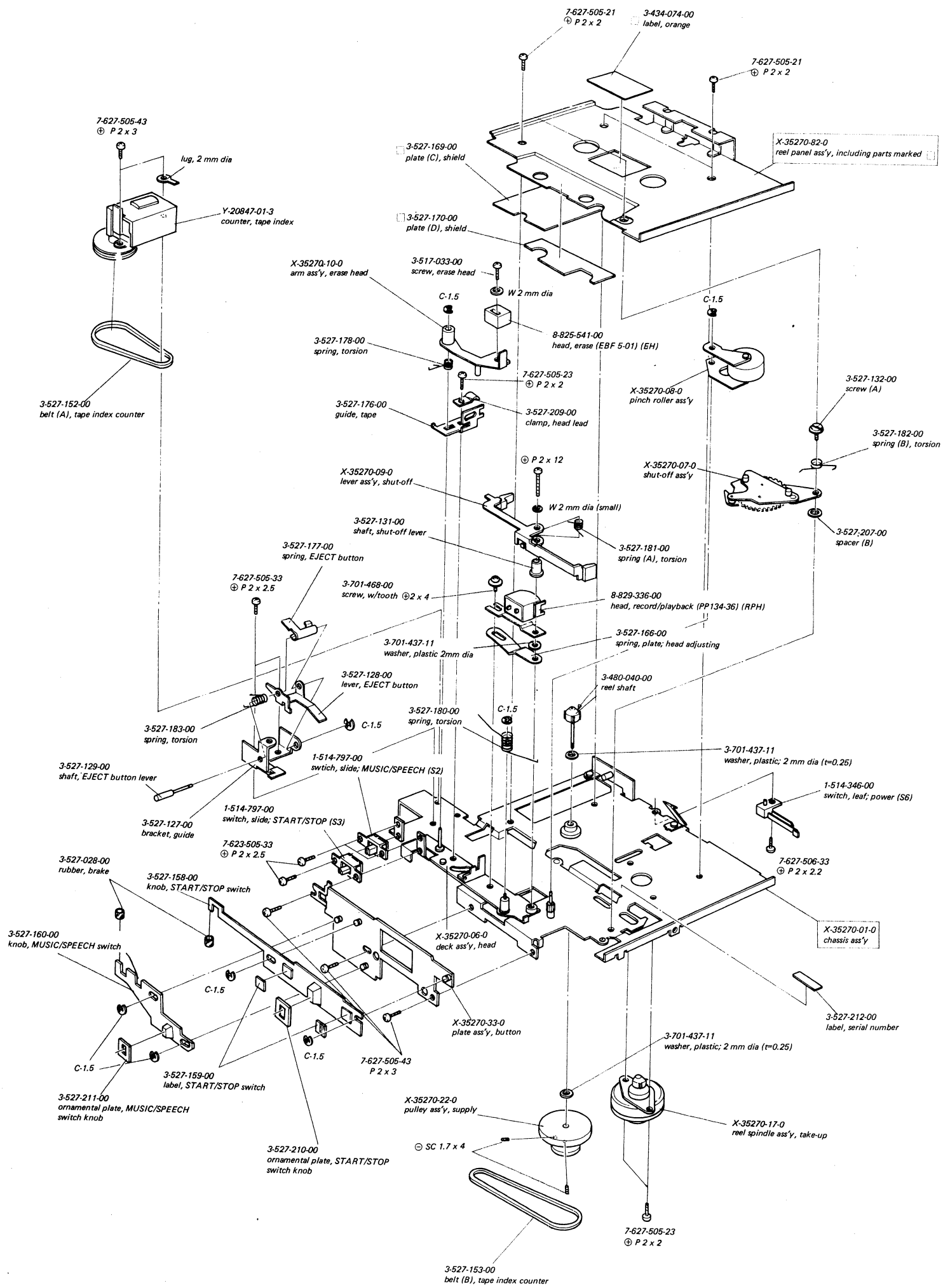


# SECTION 5 EXPLODED VIEWS

TC-55 TC-55



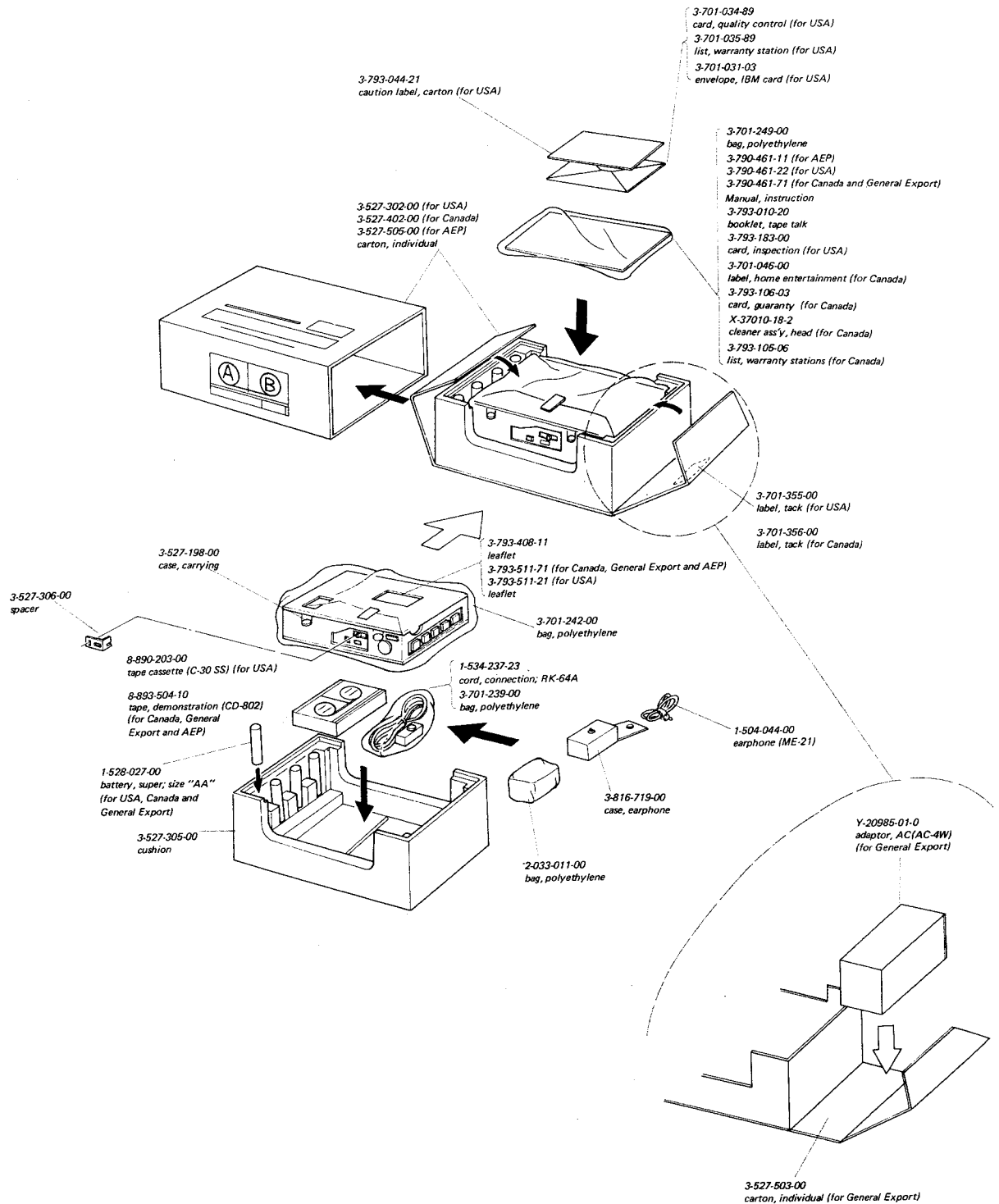








## 5-5. PACKING



## SECTION 6

### ELECTRICAL PARTS LIST

Ref. No.      Part No.      Description

#### MOUNTED CIRCUIT BOARD

X-35270-51-0      mounted circuit board, amp/osc/servo,

#### SEMICONDUCTORS

Q1	transistor	2SC631
Q2	transistor	2SC631
Q3	transistor	2SC633
Q4	transistor	2SC633
Q5	transistor	2SC633
Q6	transistor	2SD-72
Q7	transistor	2SB-495
Q8	transistor	2SC633
Q9	transistor	2SC633
Q10	transistor	2SC633
Q11	transistor	2SC633
Q12	transistor	2SC633
Q13	transistor	2SC1013

D1	diode	1T40
D2	diode	1T40
D3	diode	1T40
D4	diode	1T40
D5	diode	1T22
D6	diode	1T40
D7	diode	SV04
D8	diode	1T22

#### CAPACITORS

All capacitors are in  $\mu\text{F}$  unless otherwise indicated. (p =  $\mu\text{F}$ , elect = electrolytic)

C1	1-127-397-11	1	6.3V	solid aluminum elect
C2	1-121-476-11	22	6.3V	elect
C3	1-131-174-11	47	6.3V	tantalum
C4	1-105-829-12	0.0047	50V	mylar
C5	1-131-176-11	33	3V	tantalum
C6	1-101-918-11	1000p	25V	ceramic
C7	1-131-175-11	10	3V	tantalum
C8	1-101-918-11	1000p	25V	ceramic
C9	1-131-170-11	3.3	10V	tantalum
C10	1-131-174-11	47	6.3V	tantalum
C11	1-105-670-12	0.0056	50V	mylar
C12	1-131-174-11	47	6.3V	tantalum
C13	1-131-169-11	0.47	10V	tantalum
C14	1-131-171-11	4.7	16V	tantalum
C15	1-131-176-11	33	3V	tantalum
C16	1-131-173-11	33	10V	tantalum
C17	1-131-174-11	47	6.3V	tantalum
C18	1-102-108-11	150p	50V	ceramic
C19	1-121-552-11	220	6.3V	elect
C20	1-121-420-11	220	10V	elect
C21	1-127-397-11	1	6.3V	solid aluminum elect
C22	1-131-177-11	100	3V	tantalum
C23	1-131-170-11	3.3	10V	tantalum

Ref. No.      Part No.      Description

C24	1-131-175-11	10	3V	tantalum
C25	1-131-175-11	10	3V	tantalum
C26	1-105-673-12	0.01	50V	mylar
C27	1-105-829-12	0.0047	50V	mylar
C28	1-105-679-12	0.0033	50V	mylar
C29	1-105-681-12	0.047	50V	mylar
C30	1-127-018-11	0.047	10V	solid aluminum elect
C31	1-127-397-11	1	6.3V	solid aluminum elect
C32	1-131-169-11	0.47	10V	tantalum
C33	1-131-172-11	22	10V	tantalum
C34	1-131-171-11	4.7	16V	tantalum
C35	1-105-827-12	0.0033	50V	mylar
C36	1-101-918-11	1000p	25V	ceramic
C37	1-102-078-11	1800p		feed-through
C38	1-102-078-11	1800p		feed-through
C39	1-101-918-11	1000p	25V	ceramic
C40	1-101-918-11	1000p	25V	ceramic

#### RESISTORS

Note: Use composition resistors in the following list to replace printed resistors.

All resistors are in  $\Omega$ . (k = 1,000)

R1	1-209-878-11	1.8 k	$\frac{1}{16}\text{W}$	micro
R2	1-209-878-11	1.8 k	$\frac{1}{16}\text{W}$	micro
R3	1-209-781-11	10 k	$\frac{1}{16}\text{W}$	micro
R4	1-244-497-12	10 k	$\frac{1}{8}\text{W}$	carbon
R5	1-244-499-12	12 k	$\frac{1}{8}\text{W}$	carbon
R6	1-209-773-11	4.7 k	$\frac{1}{16}\text{W}$	micro
R7	1-244-463-12	390	$\frac{1}{8}\text{W}$	carbon
R8	1-244-495-12	8.2 k	$\frac{1}{8}\text{W}$	carbon
R9	1-202-415-31	22 k	$\frac{1}{4}\text{W}$	composition
R10	1-202-091-11	68 k	$\frac{1}{8}\text{W}$	composition
R11	1-201-863-11	2.2 k	$\frac{1}{8}\text{W}$	composition
R12	1-209-771-11	3.9 k	$\frac{1}{16}\text{W}$	micro
R13	1-244-484-12	3 k	$\frac{1}{8}\text{W}$	carbon
R14	1-202-411-31	15 k	$\frac{1}{4}\text{W}$	composition
R15	1-202-390-31	2 k	$\frac{1}{4}\text{W}$	composition
R16	1-222-698-00	10 k		variable; PB VOL
R17	1-202-381-31	820	$\frac{1}{4}\text{W}$	composition
R18	1-209-778-11	7.5 k	$\frac{1}{16}\text{W}$	micro
R19	1-202-054-11	15 k	$\frac{1}{8}\text{W}$	composition
R20	1-202-387-11	1.5 k	$\frac{1}{8}\text{W}$	composition
R21	1-202-393-11	2.7 k	$\frac{1}{4}\text{W}$	composition
R22	1-202-365-31	180	$\frac{1}{4}\text{W}$	composition
R23	1-201-372-11	18	$\frac{1}{8}\text{W}$	composition
R24	1-202-411-31	15 k	$\frac{1}{4}\text{W}$	composition
R25	1-201-978-11	100	$\frac{1}{16}\text{W}$	composition
R26	1-209-763-11	300	$\frac{1}{16}\text{W}$	micro
R27	1-210-362-11	220	$\frac{1}{16}\text{W}$	micro
R28	1-201-378-11	33	$\frac{1}{8}\text{W}$	composition
R29	1-202-112-11	150 k	$\frac{1}{8}\text{W}$	composition
R30	1-202-397-11	3.9 k	$\frac{1}{4}\text{W}$	composition
R31	1-244-401-12	1	$\frac{1}{8}\text{W}$	carbon
R32	1-244-401-12	1	$\frac{1}{8}\text{W}$	carbon
R33	1-209-878-11	1.8 k	$\frac{1}{16}\text{W}$	micro

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	
R34	1-202-046-11	11 k	$\frac{1}{8}$ W composition
R35	1-209-771-11	3.9 k	$\frac{1}{4}$ W micro
R36	1-201-975-11	82	$\frac{1}{8}$ W composition
R37		-----	
R38	1-202-391-31	2.2 k	$\frac{1}{4}$ W composition
R39	1-202-413-31	18 k	$\frac{1}{4}$ W composition
R40	1-244-543-32	820 k	$\frac{1}{8}$ W carbon
R41	1-202-377-31	560	$\frac{1}{4}$ W composition
R42	1-201-870-11	330	$\frac{1}{8}$ W composition
R43	1-201-279-11	1.2 k	$\frac{1}{8}$ W composition
R44	1-202-400-11	51 k	$\frac{1}{4}$ W composition
R45	1-202-427-31	68 k	$\frac{1}{4}$ W composition
R46	1-202-393-31	2.7k	$\frac{1}{4}$ W composition
R47	1-210-392-11	75	$\frac{1}{16}$ W micro
R48	1-210-101-11	51	$\frac{1}{16}$ W micro
R49	1-201-378-11	33	$\frac{1}{8}$ W composition
R50	1-201-982-11	120	$\frac{1}{8}$ W composition
R51	1-210-360-11	180	$\frac{1}{16}$ W micro
R52	1-210-108-11	820	$\frac{1}{16}$ W micro
R53	1-221-689-00	3.3 k (B)	adjustable
R54	1-202-415-31	22 k	$\frac{1}{4}$ W composition
R55	1-202-389-31	1.8 k	$\frac{1}{4}$ W composition
R56	1-202-427-31	68 k	$\frac{1}{4}$ W composition
R57	1-202-373-31	390	$\frac{1}{4}$ W composition
R58	1-210-388-11	68 k	$\frac{1}{16}$ W micro
R59	1-209-775-11	5.6 k	$\frac{1}{16}$ W micro
R60	1-202-031-11	6.8 k	$\frac{1}{8}$ W composition
R61	1-201-653-11	12 k	$\frac{1}{8}$ W composition
R62	1-202-387-31	1.5 k	$\frac{1}{4}$ W composition
R63	1-202-002-11	2 k	$\frac{1}{8}$ W composition
R64	1-210-113-11	18 k	$\frac{1}{16}$ W micro
R65	1-201-453-11	470	$\frac{1}{8}$ W composition
R66	1-201-996-11	270	$\frac{1}{8}$ W composition

### SWITCHES

S1	X-35270-44-0	slide, record/playback (including switch cover)
S2	1-514-797-00	slide, MUSIC/SPEECH
S3	1-514-797-00	slide, START/STOP
S4	1-514-264-00	slide, cue
S5	1-514-346-00	leaf, rewind
S6	1-514-346-00	leaf, power

















### JACKS

J1	1-507-251-00	mini; MIC
J2	1-507-169-13	mini; MONITOR
J3	1-507-195-00	REMOTE
CNJ	1-507-362-00	connector, DC IN





<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
<b><u>MISCELLANEOUS</u></b>		
L1, 2	1-407-484-00	microinductor, 3.3 $\mu$ H
T	1-433-105-12	transformer, bias osc
SP	1-502-362-00	speaker
ME	1-520-120-00	meter
	1-539-912-00	board, terminal
MIC	8-814-190-10	electret condenser microphone(C-1002A)
EH	8-825-541-00	head, erase (EBF-5-01)
R.P.H	9-829-336-00	head, record/playback (PP134-36)
M	8-834-221-01	motor (D-221F)

## SECTION 7 HARDWARE

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
<b>SCREWS</b>			<b>MISCELLANEOUS</b>		
	7-621-255-72	⊕ P 2 x 12	7-622-104-02		nut, 1.7 mm dia
	7-621-305-22	⊖ F 2 x 4	7-623-105-02		washer, 2 mm dia (small)
	7-621-535-00	⊕ K 1.7 x 4	7-623-105-12		washer, 2 mm dia (middle)
	7-621-535-33	⊕ K 1.7 x 4	7-623-505-01		lug, 2 mm dia
	7-621-714-10	⊖ SC 1.7 x 2.5	7-624-101-01		retaining ring, E-1.5
	7-621-714-20	⊖ SC 1.7 x 4	7-624-122-11		retaining ring, C-1.5
	7-627-305-31	⊕ RK 2 x 2.5	7-624-124-11		retaining ring, C-2
	7-627-305-39	⊕ RK 2 x 2.5	7-624-192-01		retaining ring, E-2
	7-627-305-61	⊕ RK 2 x 4	7-632-107-00		tube, 2.1 mm dia
	7-627-500-93	⊕ P 1.7 x 4	7-632-151-31		tube, 2.6 x 10
	7-627-505-21	⊕ P 2 x 2			
	7-627-505-23	⊕ P 2 x 2			
	7-627-505-29	⊕ P 2 x 2			
	7-627-505-33	⊕ P 2 x 2.5			
	7-627-505-43	⊕ P 2 x 3			
	7-627-505-61	⊕ P 2 x 4			
	7-627-505-63	⊕ P 2 x 4			
	7-627-505-93	⊕ P 2 x 6			
	7-627-506-33	⊕ P 2 x 2.2			

<b>P</b> — Pan Head Screw .....		
<b>PS</b> — Pan Head Screw with Spring Washer .....		
<b>K</b> — Flat Countersunk Head Screw ...		
<b>B</b> — Binding Head Screw .....		
<b>RK</b> — Oval Countersunk Head Screw ...		
<b>T</b> — Truss Head Screw .....		
<b>R</b> — Round Head Screw .....		
<b>F</b> — Flat Fillister Head Screw .....		

<b>SC</b> — Set Screw .....		
<b>E</b> — Retaining Ring (E Washer) .....		
<b>W</b> — Washer		
<b>SW</b> — Spring Washer		
<b>LW</b> — Lock Washer		
<b>N</b> — Nut		

— Example —

⊕ P 3x10

└─ Type of Slot

└─ Length in mm (L)

└─ Diameter in mm (D)

└─ Type of Head

